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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,649

09/27/2006

Graeme Alexander

2354/440

1610

26774

7590

01/26/2009

NIXON PEABODY LLP - PATENT GROUP  
1100 CLINTON SQUARE  
ROCHESTER, NY 14604

EXAMINER

NGUYEN, HAIDUNG D

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

01/26/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,649	<b>Applicant(s)</b> ALEXANDER ET AL.	
	<b>Examiner</b> Haidung D. Nguyen	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-29 and 33-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-29 and 33-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/27/06, 11/11/08</u> .                                       | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group I in the reply filed on 1/5/09 is acknowledged. The subject matter of Group II requires the particulars of Group I, i.e., claim 19 depends from claim 1, therefore Groups I and II are linked by the same or a corresponding special technical feature as to form a single general inventive concept. Accordingly, the restriction requirement is withdrawn.

2. Claims 1, 3-29, 33-37 are pending.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 11, 15 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 11 recites the limitation "ammonium polyphosphate" in line 2. There is insufficient antecedent basis for this limitation in the claim.

6. Claims 15 and 35 recite the limitation "calcium carbonate" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**10. Claims 1, 3-14, 16-29, 33, 34, 36 and 37 are rejected under 35 U.S.C. 103(a) as obvious over Vexler et al. (US 2004/0216914).**

11. Vexler et al. discloses the fire and smoke retardant compositions comprise a polyolefin matrix in admixture with smoke retardant nano-sized particles and a flame retardant additive package (para –12), wherein the nano-sized particles include naturally occurring materials such as montmorillonite, hectorite and saponite (para

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0016); flame retardant additive package includes intumescent additives such as ammonium polyphosphate (para 0037) and non-halogen additives such as aluminum hydroxide and magnesium hydroxide (para 0039). The compositions form a self-support ceramic on exposure to an elevated temperature (para 0015).

12. Vexler et al. does not expressly disclose the percentage of each component in the composition; however, “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). “The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”; *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

13. Although Vexler et al. does not expressly disclose the properties as in claims 4-7, 27-29, 33-34, such properties are deemed to be inherent.

14. Vexler et al. discloses a cable comprising at least one elongated functional element and at least one insulating layer comprising the fire and smoke retardant composition as discussed above (abstract, Figure 3)

**15. Claims 15 and 35 are rejected under 35 U.S.C. 103(a) as obvious over Vexler et al. (US 2004/0216914) in view of Casiraghi (US 6,555,605).**

16. Vexler et al. does not disclose using calcium carbonate as a flame retardant additive. Casiraghi discloses using calcium carbonate and magnesium hydroxide in a flame-retardant composition. It would have been obvious to one of skill in the art at the

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time the invention was made to have employed calcium carbonate as a non-halogen additive in composition of Vexler et al., thereby provide a flame retardant composition that at normal combustion temperature does not under go decomposition reaction since calcium carbonate decomposes at 825°C (Casiraghi – column 1, lines 49-55).

**17. Claims 1, 3-29, 33-37 are rejected under 35 U.S.C. 103(a) as obvious over Casiraghi (US 6,555,605) in view of Vexler et al. (US 2004/0216914).**

18. Casiraghi discloses flame-retardant polymer compositions comprise a base polymer (column 5, lines 20-35), magnesium hydroxide, calcium carbonate and at least one phosphorus compound selected from a group consisting of salts of phosphorous or phosphoric acids such as ammonium polyphosphate (see the abstract, column 3, line 22 to column 4, line 57).

19. Casiraghi does not disclose using silicate mineral filler. Vexler et al. discloses the flame retardant compositions as discussed above, wherein nano-sized silicates including montmorillonite, hectorite and saponite (para 0016) can be added to improve the flame retardance properties. It would have been obvious to one ordinary skill in the art to have employed silicates including montmorillonite, hectorite and saponite as taught by Vexler et al. in the flame retardant compositions of Casiraghi, thereby improve gas barrier characteristics and flame retardance of the composition. Additionally, nano-sized silicates can provide self support ceramic on exposure to an elevated temperature (para 0015).

20. Neither Casiraghi nor Vexler et al. expressly disclose the percentage of each component in the composition; however, “[W]here the general conditions of a claim are

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disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). “The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.”); *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

21. Although neither Casiraghi nor Vexler et al. expressly disclose the properties as in claims 4-7, 27-29, 33-34, such properties are deemed to be inherent.

22. Vexler et al. discloses a cable comprising at least one elongated functional element and at least one insulating layer comprising the fire and smoke retardant composition as discussed above (abstract, Figure 3)

### ***Examiner Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haidung D. Nguyen whose telephone number is (571)270-5455. The examiner can normally be reached on M-Th: 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DOUGLAS MC GINTY/  
Primary Examiner, Art Unit 1796

Haidung D Nguyen  
Examiner  
Art Unit 1796

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